

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Armstrong Operating, Inc.
Well Name/Number: Armstrong Peerless 1-7
Location: NW NW Section 7 T34N R46E
County: Daniels, **MT;** **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: No, 15 to 20 days drilling time.

Unusually deep drilling (high horsepower rig): No, big double derrick drilling rig or a small triple derrick drilling rig to drill to 7,100' TD.

Possible H2S gas production: Yes, possible.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Big double derrick drilling rig or a small triple derrick drilling rig to drill to 7,100' TD. No special concerns.

Water Quality

(possible concerns)

Salt/oil based mud: Yes, freshwater and freshwater mud system on surface hole and salt saturated mud system on mainhole.

High water table: None anticipated.

Surface drainage leads to live water: No, closest surface drainage is an unnamed ephemeral tributary to West Fork Poplar River, about 3/8 of a mile to the southwest from this location.

Water well contamination: No, closest water wells are about 1/2 of a mile to the northwest, about 5/8 of a mile to the northwest, 7/8 of a mile to the northwest and 7/8 of a mile to the southeast from this location. Depth of these water wells range from 13' to 400'. Surface casing setting depth of 1000'. Surface hole will be drilled with freshwater and surface casing set and cemented back to surface from 1000'.

Porous/permeable soils: No, sandy clay soils.

Class I stream drainage: No Class I stream drainages in the area of review.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 1000' of surface casing cemented to surface adequate to protect freshwater zones.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None

High erosion potential: No, small cut up to 5.8' and small fill, up to 3.7' required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 300'X400' location size required.

Damage to improvements: Slight

Conflict with existing land use/values: Slight, surface use cultivated land.

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Using existing county road, Police Creek Road and existing section line farm road. Will have to build about 834' of new access road into location off existing farm road. Drilling and completion fluids will be recycled to the next location the remaining fluid will be hauled to a commercial Class II disposal. Cuttings will be left in the lined pit. Cuttings and pit will be buried after being allowed to dry. No special concerns

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residences are about 1/2 of a mile to the northwest and 1.25 miles to the southeast from this location.

Possibility of H2S: Yes, H2S possible.

Size of rig/length of drilling time: Big double or small triple drilling rig/moderate 15 to 20 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Proper BOP and adequate surface casing should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Specie identified as threatened or endangered is the Whooping Crane. Candidate species is the Sprague's Pipit. NH Tracker website

indicates 3 species of concern in this area. They are the Baird's Sparrow, Sprague's Pipit and the Bobolink.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☒ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: DNRC Trust Lands will do surface EA. Surface use is cultivated lands. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: DNRC Trust Lands will do surface EA. Surface use is cultivated lands. No concerns.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Well is a 7,100' TD vertical Nisku Formation test in Daniels County.

Summary: Evaluation of Impacts and Cumulative effects

No significant long term impacts expected, some short term impacts are expected.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector

Date: July 11, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website

(Name and Agency)

Daniels County water wells

(subject discussed)

July 11, 2011

(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Daniels County, Montana

(subject discussed)

July 11, 2011

Montana Natural Heritage Program Website

(Name and Agency)

Heritage State Rank= S1, S2, S3, Location T34N R46E

(subject discussed)

July 11, 2011

(date)

If location was inspected before permit approval:

Inspection date: July 12, 2011

Inspector: Mr. Schmidt

Others present during inspection: None